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ABSTRACT

This guide, designed for teachers and community leaders attempting to answer questions being raised about population and population trends or developing population study programs, contains a selective list of information sources and written audiovisual resource materials. The resource guide is divided into five areas. The first group lists over 40 entries, including private organizations, public agencies, and universities. The second area lists teacher resources, including background and theory materials, curriculum and study guides, reference guides, newsletters and periodicals, and readings. The third area looks at both teacher and student resources, including curriculum and study guides, data, reference guides, and readings. Student resources include all of the above including texts. The final area, audiovisual aids and activities, presents charts, films, and games. Over 125 entries are included in the resources sections. (Author/JR)

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population education: sources and resources

A publication of the Population Reference Bureau, Inc.

IS the U.S. population still growing?

WHAT is the current U.S. population growth rate?
is zero population growth?

HOW MANY people are born every minute in the United States?
people are born every minute in the world?
elderly will be living in the United States by the year 2000?
persons are there under 15 years of age?

HOW does population size or distribution affect food or energy use?
does population size or distribution affect the status of women?

WHERE can the answers be found?

Population Education: Sources and Resources is designed for use by teachers and community leaders attempting to answer these and other questions being raised about population. It contains a listing—by no means exhaustive—of information sources and written and audiovisual resource materials. It can also serve as a guide for those seeking to set up local programs or workshops.

September 1975

Prepared by Judith Seltzer and JoAnn Robinson, Population Education Program, Population Reference Bureau, Inc., 1754 N Street, N.W., Washington, D.C. 20036.

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Sources

Private Organizations

American Freedom From Hunger Foundation, 1625 I Street, N.W., Washington, D.C. 20006; Gerald Connolly, executive director (202) 254-3487. Through its education and publication programs, the Foundation examines issues of global development such as food, population, and hunger.

The monthly *Bulletin* ($5) is available to members. The *Issue Pack on World Hunger* ($1.50) contains fact sheets, articles, and a bibliography.

Center for Information on America, P.O. Box C, Washington, Conn. 06793; Townsend Scudder, president and editor (203) 868-2602. The Center is a research and educational organization dedicated to informing the public about America through its publications. Its population education program aims at increasing public knowledge of the components of population change.

The Center publishes a series entitled *Vital Issues* (10 numbers at $4 per year). For a discussion of its *Population Profiles* see page 12.

Center for War/Peace Studies, 218 East 18th Street, New York, N.Y., 10003; Lawrence Condon, program director (212) 475-9850. The Center is concerned with educational development, research, and consulting to increase awareness of global problems of conflict and social change. Its program focuses on levels K through 12. For a discussion of its publications, see *Intercom* on page 11.

Earthrise, Inc., P. O. Box 120, Annex Station, Providence, R.I. 20901; Russell Kolton, director (401) 274-0011. Earthrise is engaged in research, education, and design focused on the future. It conducts Futures Workshops as well as the Futures Laboratory (associated with the University Without Walls). The last is an ongoing program leading to the B.A. degree.

The bimonthly *Earthrise Newsletter* ($3 to students, $5 to individuals, and $10 to institutions) reports on futuristics.

For a reference to the organization's *Global Futures Game*, see page 21.

Environment-Population Education Services, 21 Merritt Street, Hamden, Conn. 06511; Lawrence Schaefer, president (203) 888-1436. This community group promotes and aids environmental and population education through the development of curriculum materials.

A library of 17 population films is available to educators, primarily in New England, for a charge of between $5 and $35 according to the film's length. For a reference to the group's publication *An Introduction to Population, Environment and Society*, see page 9.

ERIC (Educational Resources Information Center) ***Clearinghouse for Social Studies/Social Science Education***, 855 Broadway, Boulder, Colo. 80302; User Services coordinator (303) 492-8434. The Clearinghouse collects, reviews, abstracts, and indexes current educational materials, including population studies, as they relate to social studies curricula in both primary and secondary grades. Bibliographic and reference services are provided to libraries, organizations, and individuals.

The "Looking At" section of the quarterly *Social Science Education Consortium Newsletter* (free) announces curriculum development projects including social studies units on population.

ERIC Information Analysis Center for Science, Mathematics, and Environmental Education, 400 Lincoln Tower, Ohio State University, 1800 Cannon Drive, Columbus, Ohio 43219; Robert Howe, director (614) 422-6717. The Center is engaged in research education and computer-based information analysis. It provides bibliographic and reference services to libraries and organizations.

Published eight times a year, the Center's *SMEAC Newsletter: Environmental Education* (free) covers all aspects of environmental education including population and family planning.

Institute for World Order, 1140 Avenue of the Americas, New York, N.Y. 10036; Betty Reardon, director, School Program (212) 575-0055. The Institute is devoted to education concerning ways in which world structures and institutions can be changed to achieve world peace and social justice. It is involved in curriculum development, teacher training, and teacher services for grades 6 through 12.

The Institute publishes a quarterly *Ways and Means of Teaching About World Order* ($3 per year). Also available is a list of publications on world order issues, peace, social justice, ecological balance, and economic equity. For a reference to the film *Population and the Quality of Life*, see page 19.

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Institute of Society, Ethics, and the Life Sciences, Hastings Center, 623 Warburton Avenue, Hastings-on-Hudson, N.Y. 10706; Michael Henry, population specialist (914) 478-0500. The Institute's concerns are the ethical, legal, and social implications of advances in the life sciences, including genetic engineering, death and dying, behavior control, and population.

The bimonthly *The Hastings Center Report* ($18 per year) contains interesting articles for teachers and libraries. An annual bibliography is published on ethics relating to population. A packet of readings and articles on cultural values and population policy is in preparation.

International Planned Parenthood Federation (IPPF), 18-20 Lower Regent Street, London, SW1Y 4PW, England; Frances Dennis, director of information, Western Hemisphere Region Office (IPPF), 111 Fourth Avenue, New York, N.Y. 10003; Rene Jaimes, librarian (212) 533-1050. IPPF provides services, training, and mass-communication/education related to family planning, demography, and economic and social development. The library of Western Hemisphere provides bibliographic and reference services to libraries, to organizations, and to individuals.

The quarterly *People* ($6 per year) is a world digest of developments and debate in the family planning and population fields.

Overseas Development Council, 1717 Massachusetts Avenue, N.W., Washington, D.C. 20036; Jayne Millar Wood, public education specialist (202) 234-8701. The Council provides information for public discussion of fundamental issues affecting U.S. relations with developing countries. The education program focuses on integration of global perspectives into U.S. school curricula.

The *Communique* series includes briefs of 6 to 10 pages (10 cents each), and the *Development Paper* series includes pamphlets (40 cents to $1.25). Both are about important issues in development. For a reference to *Focusing on Global Poverty and Development* published by the Council in 1973, see page 9.

Planned Parenthood Federation of America (also ***Planned Parenthood/World Population***) 810 Seventh Avenue, New York, N.Y. 10019; Robin Elliott, director, Information and Education Department (212) 541-7800. Planned Parenthood (affiliated with the International Planned Parenthood Federation) is engaged in service, fieldwork, training, and mass communication/education in family planning in the United States. The Information and Education Department distributes pamphlets and Planned Parenthood publications and reviews audiovisual materials. The library provides bibliographic and reference services to libraries, organizations, and individuals. In 1968, the Alan Guttmacher Institute (formerly the Center for Family Planning and Program Development) was established as a research and development division to focus on the development of public policy, with offices in New York City and Washington, D.C. Planned Parenthood has 186 affiliates throughout the United States; 174 are medical and 12 are educational.

The quarterly *Family Planning Perspectives* ($15, included in an associate membership) describes national and international population dynamics as well as program developments in family planning. It is published by the Alan Guttmacher Institute, 515 Madison Avenue, New York, N.Y. 10019. The bimonthly *Family Planning/Population Reporter* ($18 per year) reviews state laws and policy. It is published by the Alan Guttmacher Institute, 1666 K Street, N.W., Washington, D.C. 20006. Barry Nestor, the Washington coordinator of information services (202) 296-4012. *Washington Memo* (20 issues, $15 per year) reports on legislative, judicial, and administrative developments regarding U.S. public policy in family planning and population. It is available from the Washington, D.C. office.

Population Association of America, P.O. Box 14182, Benjamin Franklin Station, Washington, D.C. 20044; Mary Grace Kovar, secretary-treasurer (202) 393-3253. This scientific, professional organization promotes research on population and publishes and disseminates the results. Annual meetings have included sessions on population education since 1972.

The Association publishes quarterly *Demography, Population Index*, and *PAA Affairs*, which are all available to members ($8 for students and $25 for individuals). For a reference to *Careers in Demography* see page 16.

The Population Council, 245 Park Avenue, New York, N.Y. 10017; Stephen Viederman, assistant director, Demographic Division (212) 687-8330. The Council promotes scientific training and the study of population through the social and biomedical sciences. It also promotes population education through support of model programs, research related to the development of programs, and participation in an international network of specialists in the field. It provides bibliographic and reference services to libraries, organizations, and individuals.

The monthly *Studies in Family Planning* contains a wide range of articles on such topics as population, family planning, and program development and evaluation. The bimonthly *Current Publications in Population/Family Planning* provides abstracts of selected articles and books. Occasional publications are the in-depth *Reports on Population/Family Planning* presenting current information and the *Country Profiles* describing social, economic, and demographic characteristics of selected countries and the nature of their population activities. All publications are available free from the Council's Information Service.

Population Crisis Committee, 1835 K Street, N.W., Washington, D.C. 20006; James Chamberlain, youth coordinator (202) 659-1833. The Committee promotes research and mass communication/education in population studies and family planning aimed at controlling population growth. It is also concerned with legislative developments.

Published biannually, *The Draper Fund Reports* (free) focus on aspects of population and family planning.

Population Dynamics, 3829 Aurora Avenue North, Seattle, Wash. 98103; Martha Willing, executive officer (206) 632-5075. Population Dynamics is involved in mass communication/education with special interest in biomedical issues and family-size decisions to bring people and resources into balance.

Instructional films are available on population and contraception. For a reference to the film *Beyond Conception*, see page 20.

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The Population Institute, 110 Maryland Avenue, N.E., Washington, D.C. 20002; (202) 544-3300. The Institute fosters interest in population subjects through its four divisions. These are: the Organization Liaison Division (Judith Senderowitz, director), which serves as a catalyst for population programs among nongovernment membership organizations; the Youth and Student Division (William Ryerson, director), which sponsors an internship program for college students in State legislatures; the Education Division (Geraldine Brooks, director), which fosters interest in population education; and the Communications Center (David Poindexter, director, 777 UN Plaza, Room 7A, New York, N.Y. 10017), which focuses on media channels both in the United States and abroad.

The bimonthly *Population Issues* (free), the newsletter of the Organization Liaison Division, highlights various population issues to assist national and international organizations on program planning related to population. For a reference to the *Population Activist Handbook*, see page 13.

Population Reference Bureau, Inc., 1754 N Street, N.W., Washington, D.C. 20036; Judith Seltzer, director, Population Education Program (202) 638-5500. The Bureau is dedicated to public education and information on population dynamics. Its publications explore the implications of population change on social and economic development and on environment and resource use. The Population Education Program serves as a central bank of information and materials for secondary school teachers, curriculum specialists, and administrators. The library provides bibliographic reference services to libraries, organizations, and individuals.

The Bureau maintains a library of 15 population films and publishes the annual *World Population Data Sheet*, the monthly *Intercom*, and the bimonthly *Interchange* (population education newsletter), as well as the periodicals *Population Bulletin* and *PRB Report*. All are available to teachers for a special membership of $5. Wall charts and slides are also available. For discussions of the *World Population Data Sheet*, *Interchange*, and *Population Bulletin*, see pages 13, 10, 8, and 13.

Sierra Club, 1050 Mills Tower, San Francisco, Calif. 94104; Judith Kunofsky, population coordinator (415) 981-8643. The Sierra Club works to restore the quality of the natural environment and to maintain the integrity of the ecosystem. The Club members are organized into 45 chapters across the country. The population project encourages and coordinates educational programs about population through the provision of materials and a speakers' bureau.

The monthly *Sierra Club Bulletin* ($8 per year) is the organization's official journal. The bimonthly *Population Report* (free) is a newsletter on legislative news, current demographic facts, and recent or upcoming events.

Urban Life-Population Education Institute, 2418 St. Paul Street, Baltimore, Md. 21218. Lester McCrea, co-director (301) 396-6627 or 396-6624. The Institute's goal is to demonstrate population realities to Baltimore Public School teachers so as to encourage the introduction of population studies into the school curriculum. The Institute has held workshops for teachers and developed curriculum aids.

A library of five population films is available without charge to teachers in Baltimore. For a reference to the Institute's curriculum materials such as "Demography and You," see page 12.

World Population Society, Hurst Hall, American University, Washington, D.C. 20016; Pierre Bergeron, assistant director (202) 686-3863. In affiliation with American University, the Society promotes through its annual meetings a multi-disciplinary approach to solving major world population problems.

The monthly *Newsletter* (included in the membership fee of $5 for students and $10 for individuals) reports on the Society's activities and general population events.

World Watch Institute, 1776 Massachusetts Avenue, N.W., Washington, D.C. 20036; Bruce Stokes, director of information (202) 452-1999. The Institute is concerned with interdisciplinary analysis of world problems and their solution before they become major crises.

Occasional papers on selected international topics such as food, environment, resources, women, and population are prepared.

Zero Population Growth, Inc., [ZPG] 1346 Connecticut Ave., N.W., Washington, D.C. 20036; Elaine Murphy, director of the Population Education Program (202) 785-0100. ZPG is involved in mass communication and education and political action in demography and family planning. ZPG's specific goal is to bring about zero population growth in the United States.

The organization's newsletter *ZPG National Reporter* (10 issues, $5.50 per year) reports actions of the chapters and focuses on issues such as abortion or women's rights. The membership fee is $15. For ZPG publications, see: *Population Education Resources*, page 13; *Equilibrium*, page 10; and *ZPG and Immigration: A Discussion Paper*, page 15.

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Public Agencies

United Nations Department of Economic and Social Affairs, Population Division, United Nations Plaza, New York, N.Y. 10009; Simone Sauterot, director of Reference Center (212) 754-1234, extension 2463. The Population Division prepares studies on population, conducts research on fertility and family planning, and offers advisory services to governments. Its special focus is on developing countries.

The *Demographic Yearbook* ($22 paperbound) prepared by the Statistical Office includes data on land area, population, natality, mortality, nuptiality, and divorce for every country of the world. The 1973 edition is available. *Determinants and Consequences of Population Trends*, Volume 1 ($24) is a synthesis of major findings concerning the relationship between population trends and economic and social factors. These publications are available from the United Nations Sales Section.

United Nations Fund for Population Activities [UNFPA], 485 Lexington Avenue, New York, N.Y. 10017; Avi Green, librarian (212) 754-1235, extension 4887. UNFPA promotes awareness of the implications of national and international population change and offers multilateral technical assistance to developing countries.

The monthly *UNFPA Newsletter* (free) covers activities of the United Nations related to population. The monthly *Populi* (free) contains articles on population.

U.S. Department of Commerce, Social and Economic Statistics Administration, Washington, D.C. 20233; Nelly Harris, Population Section, Data User Services Division, Bureau of the Census (301) 763-5002. The **Bureau of the Census** is the statistical agency of the U.S. government which collects, tabulates, and releases data about people and the economy of the United States. Its population materials come from decennial censuses and current population surveys. The Bureau incorporates the International Statistical Programs Center that researches and collects data on developing countries, especially on population and family planning. The **Bureau of Economic Analysis** collects data on the Nation's economy, income and wealth, and the balance of payments. This Bureau incorporates the Foreign Demographic Analysis Division, which is concerned with research on demography and on economic and social development and with data for foreign countries. The library provides bibliographic and reference services to libraries, organizations, and individuals.

The Bureau of the Census publishes decennial census reports for the Nation and for individual States as well as special subject reports. Special current series include the P-20 on population characteristics, the P-23 on current population reports, the P-25 on estimates and projections, and the P-26 on the Federal-State Cooperative Program for population estimates.

U.S. Department of Health, Education, and Welfare, Office of Population Affairs, 330 Independence Avenue, S.W., Washington, D.C. 20201; Ruth Galaid, population education adviser (202) 245-6468. The Office directs Federal family planning and population research programs. It promotes support and understanding of population education in the United States by working directly with Federal agencies; with civic, educational, health, social service, and religious groups; and with media representatives.

—*Office of Education, Office of Environmental Education*, Room 2029, 400 Maryland Avenue, S.W., Washington, D.C. 20202; program information officer (202) 245-9231. The Office sponsors grant programs for environmental education projects with particular emphasis on population dynamics.

—*National Institutes of Health, Center for Population Research*, 9000 Rockville Pike, Bethesda, Md. 20014; Phillip Corfman, director (301) 496-1101. The Center engages in biomedical research and the development and evaluation of contraceptives. It also engages in a wide variety of social and behavioral science research designed to ascertain the social, psychological, and economic determinants of fertility in the United States and to assess the consequences of population growth and change so that public policy may be guided by adequate information.

U.S. Department of State, Agency for International Development, Office of Population, Rosslyn Plaza East, Room 515, Washington, D.C. 20523; Ann Peters, librarian (202) 235-9675. The Office directs U.S. Government assistance to family planning and population programs in developing countries.

Published annually, *Population Program Assistance* (free) is a comprehensive review of U.S. aid programs.

World Bank/International Bank for Reconstruction and Development, 1818 H Street, N.W., Washington, D.C. 20433; Doris Bomstein, director of publications (202) 477-2057. The World Bank supports programs and supplies information and publications. The Population and Nutrition Projects section provides assistance to countries in population planning.

The Bank publishes *Sector Policy Papers* on topics such as population planning, education, health, rural development, and nutrition and *Working Papers*, which can be useful to high school and college libraries. The annual *World Bank Atlas; Population, Per Capita Products and Growth Rates* has data for 189 countries. The annual *Trends in Developing Countries* is a chart book dealing with such topics as global indicators, population and economic growth, and social indicators. All publications are free.

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Universities

University of Chicago, Department of Education, 5835 Kimbark Avenue, Chicago, Ill. 60637; William Griffith, professor of education (312) 753-3815. The department, in conjunction with the Community and Family Studies Center, is involved in training (at the M.A. and Ph.D. levels) and research in population education. Summer workshops are held for foreign students interested in curriculum development and program planning in population.

University of Cincinnati, Departments of Biology and Sociology, Cincinnati, Ohio 45221; Carl Huether, professor of biology (513) 475-4780; Susan Gustavus, professor of sociology (513) 475-6273. The University's activities in population education have included summer institutes for secondary school teachers (1971, 1972, 1973) and a survey of population educators on course content and curriculum materials in U.S. secondary schools (1974).

A library of 10 population films is maintained. Films are available from the Department of Biology for a service charge of $2 each.

Columbia University, Teachers College, New York, N.Y. 10027; Sloan Wayland, associate dean for student affairs (212) 678-2052. The college offers training (at the M.A. and Ph.D. levels), research, and teaching in education with emphasis on population. It is involved in the conceptualization and methodology of population education and the preparation of curriculum materials for secondary school teachers in the United States as well as for educators in Asian countries.

Cornell University, International Population Program, B-5 McGraw Hall, Ithaca, N.Y. 14850; J. Mayone Stycos, director (607) 256-4925. The Program engages in research, training, teaching, and mass communication/education in interdisciplinary population studies with special emphasis on demography and family planning. For a reference to the Program's filmstrip *Issues in Population: Where the Experts Disagree*, see page 20.

University of Delaware, Population-Environment Curriculum Studies Center, College of Education, Willard Hall Education Building, Newark, Del. 19711; Val Arnsdorf and Robert Stegner, co-directors (302) 730-2184. The Center is involved in teacher education and curriculum development for levels K through 12 in a multidisciplinary program of population and environmental studies.

The Center maintains a library of 30 population films available to educators in the Delaware region for a service charge of $3 plus postage per film. For a reference to *A Conceptual Scheme for Population-Environment Studies*, see page 8.

Florida State University, Population Studies Program, Departments of Sociology and Social Studies Education, Tallahassee, Fla. 32306; Charles Nam, professor of sociology (904) 644-2833, and Byron Massialas, professor of education (904) 644-3263. The Program is involved in training (at the M.A. and Ph.D. levels) and research and teaching in population education, demography, and statistics. It is also involved in the conceptualization and methodology of population education and the development and evaluation of curriculum materials.

The Program maintains a library of 25 population films available without charge to educators in Tallahassee. For a reference to its curriculum materials, *Population Dynamics in Eighth Grade American History*, see page 12.

Harvard University, Center for Studies in Education and Development, School of Public Health and the Graduate School of Education and Department of Population Science, Cambridge, Mass. 02138; David Kline, professor of education (617) 495-3551. The Center is involved in training (at the M.A. and Ed.D. levels), research, and teaching in educational planning, research, and evaluation. The focus is on population education and the development of secondary school curriculum materials in population, health and nutrition, literacy, and economics on nonformal as well as formal levels.

University of Hawaii, East-West Center, 1777 East-West Road, Honolulu, Hawaii 96822; John Middleton, Population Education Project coordinator (808) 948-7243. The Center carries on two programs. The *Population Institute* is involved in training, research, and teaching in population studies. Bibliographic and reference services are available to libraries, organizations, and individuals with a particular focus on population and family planning information in Asia and the Pacific. The *Communication Center* focuses on information, education, and communication in population and family planning. This Center has developed materials in population education for midcareer use.

The monthly *Asian Pacific Census Newsletter* (free), prepared by the Communication Center, reports on population studies, censuses, developments, and conferences. The quarterly *IEC Newsletter* (free) prepared by the Communications Institute, reports on projects, research, and publications related to the information, education, and communication aspects of population and family planning programs. The *IEC Materials Service* supplements the *IEC Newsletter* by listing new publications in the field.

University of Illinois, Population Dynamics Group, 57 Coordinated Science Laboratory, Urbana, Ill. 61801, Paul Handler, director (217) 333-3827. The Group provides computer-generated simulations and graphics in the fields of population, food, energy, labor force, migration, economic development, population history, and contraception for over 125 countries. The system is available for connection to most computers.

Hard-copy printouts and 35-mm slides are available for all simulations and graphics.

University of Michigan, Department of Population Planning, School of Public Health, Ann Arbor, Mich. 48104; Professor Eugene Weiss (313) 763-4344. The department is involved in training (at the M.P.H. level), research, and teaching in population planning with some coursework in population education. The department maintains a library of films on family planning and sexuality for distribution in Michigan.

University of North Carolina, Center for Population and Environmental Education, University Square, Chapel Hill, N.C. 27514; Ralph Wileman, professor of education (919) 933-3731. The Center is involved in education training with emphasis on the development of curriculum materials in population. A library of 15 population films is available without charge to educators and community organizations in North Carolina from the Instructional Materials Center.

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St. Lawrence University, Department of Sociology, Canton, N.Y. 31616; Parker Marden, professor of sociology (315) 379-6476. Activities in population education include: developing curriculum materials, primarily for the college level; conducting summer institutes to train college teachers (1971, 1972, 1974) and workshops to produce curriculum materials (1972, 1974); and evaluating materials (both written and audiovisual). Professor Marden is editor of the newsletter *Teaching Notes on Population*, see page 11.

Utah State University, Population Research Laboratory, Department of Sociology, Logan, Utah 84321; Dr. Yun Kim, director (801) 752-4100, extension 7662. The Laboratory conducted summer institutes in population studies and education in 1969, 1970, 1971, 1974, and 1975.

Teacher Resources

Background/Theory

A Conceptual Scheme for Population-Environment Education, by Robert Stegner and Val Arnsdorf, 1973. Population Curriculum Study, College of Education, University of Delaware, Newark, Del. 1971. 75 pp. (grades K-12).

Conceptual scheme developed around the theme: Man is a part of a natural system, the earth, and is ultimately subject to the limits of the system. The framework provides a basis for K-12 multidisciplinary studies. Adaptable in whole or in part, the scheme may be infused into existing school curricula with minimal interruption or may be used as a means for organizing discrete concentrated units of instruction.

"Population Education," guest edited by Stephen Viederman, *Social Education*, vol. 36, no. 4, April 1972. National Council for the Social Studies, 1201 - 16th Street, N.W., Washington, D.C. 20036. 103 pp., out of print (grades 9-12).

Provides a theoretical basis for both content of and approach to population education as part of school curricula in the United States. A section on sources for population education includes comprehensive annotations of written and audiovisual materials.

"Population Education: A Challenge for the Seventies," *Population Bulletin*, vol. 26, no. 3, Sept. 1970. Population Reference Bureau, Inc., 1754 N Street, N.W., Washington, D.C. 20036. 44 pp., 75 cents (grades 10-adult).

Traces the historical development of the field, with the principal rationale for formal development of population education programs, the theoretical and philosophical debates that have punctuated the process, and the problems encountered by administrators and teachers in introducing the topic into the classroom.

"Population Education: Problems and Perspectives," by Noel-David Burleson, *Educational Documentation and Information*, no. 19, 4th quarter 1974. International Bureau of Education, UNESCO, Palais Wilson, CH-1244, Geneva 14, Switzerland. 100 pp., $2.75 (adult).

Deals with definitions and concepts in population education and describes different approaches according to regional needs. Includes an annotated bibliography of curriculum development and programs: Materials are separated by world region and cover developments in the United States over the past 2 years and for the rest of the world over the past 4 years.

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Proceedings of the National Conference on Population Education, edited by Judith Seltzer and Kathryn Horsley, 1972. Population Reference Bureau, Inc., 1754 N Street, N.W., Washington, D.C. 20036. 120 pp., free (adult).

Presents conceptual and theoretical aspects of population education in the United States, particularly within the secondary school system.

A Structure for Population Education, by Mary Turner Lane and Ralph Wileman, 1974. Population Publications, 401 University Square, Chapel Hill, N.C. 27514. 115 pp., $4 (adult).

Focuses on the need for structure in population education and on questions of definition and content. Includes a discussion of population phenomena; a conceptual framework of goals, generalizations, and behavioral objectives; suggestions for planning and teaching courses; and a list of teacher and student resources.

Curriculum / Study Guides

The Development Puzzle, by Nance Lui Fyson, January 1972. Voluntary Committee on Overseas Aid and Development, 69 Victoria Street, London S.W.1, England. 60 pp., $1.35 plus shipping (grades 10-adult).

Sourcebook for teaching about the rich world/poor world gap and efforts toward one-world development, written from a British point of view. Units on food and agriculture, health, population growth, trade, industrialization, aid, education, and attitudes and values provide basic information on aspects of development.

Environment and Population: A Sourcebook for Teachers, by Kathryn Horsley, *et al*, 1972. National Education Association, 1201 - 16th Street, N.W., Washington, D.C. 20036. 112 pp., $3.75 (grades 7-12).

Sourcebook on population variables in relation to various social and natural pressures. Materials include concept statements, discussions, class activities, reference, and audio-visual recommendations. Concepts are developed at junior and senior high school levels for infusion into courses in contemporary issues, family life, history, social studies, and science.

Focusing on Global Poverty and Development, by Jayne Millar Wood, Sept. 1973. Overseas Development Council, 1717 Massachusetts Avenue, N.W., Washington, D.C. 20036. 540 pp., $12 (grades 10-adult).

Sourcebook on the role of development education, with essays and teaching suggestions on topics such as jobs, population, and economic development. The appendix includes a guide to films and organizations and a materials list.

Global Development Studies, 1973. Management Institute for National Development, 230 Park Avenue, New York, N.Y. 10017. 71 pp., $5 (grades 10-college).

Model curriculum on varying global perspectives and the historical development of global interdependence; suggestions for exercises to compare geographic areas; and an annotated list of resource materials.

An Introduction to Population, Environment, and Society, by Lawrence Schaefer, 1972. E-P Education Services, 625 Orange Street, No. 38, New Haven, Conn. 06511. 290 pp., $4.50 (grades 7-12).

A teaching manual with class activities, background information, reprints, annotated film list, bibliography, and a student workbook.

Life World 2000: A Guide for Teachers, 1975. Agency for Instructional Television, Box A, Bloomington, Ind. 47401. 64 pp., $2 (grades 7-12).

Booklet designed to accompany a series of twelve 15-minute population education television programs of the same name. Each program guide includes a discussion for the teacher, learning objectives, suggested activities for before and after viewing the program, and teaching aids connected with the activities. See *Life World 2000*, page 20.

The Local Community: A Handbook for Teachers, by the High School Geography Project, 1971. MacMillan, Inc., 866 3rd Avenue, New York, N.Y. 10022. 255 pp., $7.10 (grades 10-12).

Handbook demonstrating how to work with current and local population data. The local community is interpreted through concepts used by geographers, and population activities are used to explore its size, demographic composition, and population history. Various U.S. Bureau of the Census materials are suggested for use in classrooms.

Man's Habitat—The City, by the Minnesota Environmental Sciences Foundation, 1971. National Wildlife Federation, Educational Servicing, 1412 - 16th Street, N.W., Washington, D.C. 20036. 27 pp., $1.50 (grades 4-9).

Teacher's guide for student investigation into the urban ecosystem. One relationship to be studied is that between population distribution and transportation problems.

Options: A Study Guide to Population and the American Future, by Kathryn Horsley, *et al*, 1973. Population Reference Bureau, Inc., 1754 N Street, N.W., Washington, D.C. 20036. 75 pp., 50 cents (grades 10-adult).

A study guide written for teachers and community group leaders to assist them in involving young people in the exploration of U.S. population issues. Designed to be used independently or in conjunction with the written and film versions of the U.S. Commission's report on *Population and the American Future* (see page 21), the guide contains a condensed discussion from the report, a theme development of "Each of Us: A Population Actor," learning objectives, activities, and references.

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Population Education Packet, prepared by Judith Kunofsky, 1975. Sierra Club, 1050 Mills Tower, San Francisco, Calif. 94104. free (grades 7-adult).

Packet includes an 8-page pamphlet on "Population and the Sierra Club," a 48-page teacher's manual containing lesson plans and classroom projects, and the *World Population Data Sheet* of the Population Reference Bureau, Inc.

Population Education Task Cards, by the Population Education Pilot Curriculum Development Project, 1975. Office of Environmental Education, Superintendent of Public Instruction, Olympia, Wash., 98504. 23 cards, free (grades 7-12).

Twenty-three activities on separate cards focus on a core of population learning objectives and are appropriate for use in science, mathematics, social science, environmental science, and language arts classes. Activities are easily adaptable for upper elementary use.

Population and Social Change: A Curriculum Guide for High School Teachers, by Mark Cohen and Neil Gustafson, 1974. Upper Midwest Council, Federal Reserve Bank Building, Minneapolis, Minn. 55480. 150 pp., $5 (grades 10-adult).

Teaching guide accompanying two regional population studies: "Recent Trends/Future Prospects: A Look at Upper Midwest Population Changes" and "Population Mobility in the Upper Midwest." These present analyses of the population composition, distribution, migration and mobility, residential patterns, and socioeconomic characteristics for six States. The guide includes objectives, key concepts and questions, and sample activities.

Teaching Population Concepts, by Pat King and John Landahl, 1973. Office of Environmental Education, Superintendent of Public Instruction, Olympia, Wash. 98504. 60 pp., free (grades 5-9).

Detailed presentation of population concepts; history of world, United States, and Washington State population growth; the ramifications of growth and factors affecting it. Activity suggestions written by Washington teachers are included.

Reference Guides

Environmental Education: Reference Sources for Development of Programs and Sites, National Park Service, U.S. Department of the Interior, 1974. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. 46 pp., 60 cents (grades 10-adult).

Directory of sources for environmental education assistance by type of organization (federal, local, private) and type of assistance (funding, consultation, materials, personnel, programs).

Family Planning and Population Education in Home Economics Resource Catalog, 1975. American Home Economics Association, 2010 Massachusetts Avenue, N.W., Washington, D.C. 20036. 31 pp., free (adult).

Resource materials for home economists interested in incorporating family planning and population education into programs, especially for students in developing countries.

The People Packet, 1975. National Association for Foreign Student Affairs, 1860 - 19th Street, N.W., Washington, D.C. 20009. 50 pp., single copies free (grades 10-adult).

Resource packet for use in awareness programs concerned with world and national population issues. Five sections include guides for planning population programs, speaker sources, population bibliography, a list of audiovisual materials, and a list of population organizations and centers. A 3-minute color film loop on world population growth has been prepared for use in the Association's programs.

Population Education: A Catholic Response, 1974. World Population Task Force, National Catholic Education Association, Suite 350, 1 DuPont Circle, Washington, D.C. 20036. 4 pp., free (grades 7-12).

Pamphlet, designed for Catholic educators, that includes a definition of population education and recommended written and audiovisual materials.

Newsletters and Periodicals

EE Report (monthly). Environmental Educators, Inc., 1621 Connecticut Avenue, N.W., Washington, D.C. 20009. 16 pp., $25 per year (grades 10-adult).

Grassroots to global coverage of funds, projects, materials, and trends in environmental education. Each issue includes book reviews, resource listing, articles, and an events calendar.

Equilibrium. Zero Population Growth, Inc., 1346 Connecticut Avenue, N.W., Washington, D.C. 20036. Publication discontinued; single copies 75 cents.

—"Guiding Local Growth," edited by Rob Sauer, vol. I, no. 1, January 1973. 39 pp. (grades 10-adult). Highlights problems of population distribution and offers examples for local citizen action through essays on the American growth ethos, suburban development, environmental limitations, and growth control and the poor. Includes an annotated bibliography of local growth issues.

—"Population Education," edited by Carl Huether and Tracy Johnson, vol. 2, no. 1, January 1974, 49 pp. (grades 5-adult). Includes a 24-page section of key questions and answers, pre- and post-test for students, and activity suggestions in population education. Other articles in this issue include an essay by Garrett Hardin, discussions of the definition and politics of population education, and an interview with Baltimore City population educators.

—"Energy Growth Alternatives," edited by William D. Ruckelshaus, vol. 2, no. 3, July 1974, 49 pp. (grades 10-adult). Concerned with the impact of unresolved energy problems on community growth, and shows the need to develop data, plan ahead, and provide options to the public through essays on such topics as present and future prospects, energy and the poor, elderly and working class, city and state activities, and zero energy growth.

Interchange (bimonthly), edited by Judith Seltzer. Population Reference Bureau, Inc., 1754 N Street, N.W., Washington, D.C. 20036. 4 pp., free (grades 7-12).

Population education newsletter for secondary school teachers and curriculum supervisors, designed to promote understanding of current population trends and issues, provide information on training opportunities and teaching materials, and outline instructional activities useful in the classroom for illustrating population studies in relation to such topics as food, women, nutrition, energy, ageing, and immigration.

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Intercom (quarterly). Center for War/Peace Studies, 218 East 18th Street, New York, N.Y. 10003. $6 per year (grades 9-adult).

—"Development: New Approaches," no. 69, 1972, 70 pp., $1.50. Includes a teaching unit on development for grades 10 through 12 as well as an extensive annotated list of materials, including films and organizational resources.

—"Teaching About Population," no. 72, 1973, 72 pp., $1.50. Resource guide and program catalyst on population issues that contains a context-setting essay, a series of lesson plans, a list of teaching materials, an annotated list of films, books, and games, and a description of organization activities.

—"Exploration in the Emergent Present," no. 77, 1975, 50 pp., $2.50. Guide to discussion, study, and resources related to the problems and challenges of growth. Interviews with Robert Heilbroner, Herman Kahn, Donald Meadows, and Mihajlo Mesarovic are included as well as five sample lesson plans.

—"Teaching Interdependence: Exploring Global Challenges Through Data," no. 79, 1975, 34 pp., $1.75. Sections on population, food, energy, environment, military spending, and technology are viewed globally, and the Ocean Resources Game is included.

Teaching Notes on Population: An Occasional Newsletter for College Teachers, edited by Parker Marden. Foreign Area Materials Center, Edith Ehrman, Manager, 60 East 42nd Street, New York, N.Y. 10017. free (college).

Newsletter containing evaluation of textbooks and other teaching materials including videotapes and games; teaching notes on population, modules; and articles on aspects of the systematic study of population for undergraduate students.

—vol. 5 (winter/spring 1974) contains a teaching module, "National Identity: Who Equals What, the Question of Population Composition in Israel," "The Content of Undergraduate Education in Population Studies," "An Interdisciplinary Approach to Population Dynamics," and "Teaching *The Limits to Growth.*"

—vol. 6 (fall/winter 1975) contains an article on "Teaching Population Through Science Fiction" with an extensive bibliography of science fiction related to population and the article "Demographic Techniques and Methods in Undergraduate Courses in Population Problems: Are They Necessary?"

Readings

Home Economics and Family Planning, 1974. American Home Economics Association, 2010 Massachusetts Avenue, N.W., Washington, D.C. 20036, 60 pp., $3 (grades 10-adult).

Essays on international population and family planning concerns in clothing, nutrition, food supply, economics, decision making, and quality living.

Population: Quantity vs. Quality, by Shirley Hartley, 1972. Prentice-Hall, Inc., Englewood Cliffs, N.J. 07632. 343 pp., $4.95 (college and adult).

Comprehensive discussion of the issues of population growth in relation to resources and the environment with a policy orientation; limited presentation of demographic processes, basic measures, and population composition.

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Teacher/ Student Resources

Curriculum/ Study Guides

"Demography and You," "Individual and Family Life Styles," "B-More Baltimore!" "Demography and Environment Earth," 1975. Urban Life-Population Education Institute, 2418 St. Paul Street, Baltimore, Md. 21218. Single copies free (grades 6-12).

Four units on population with both student and teacher editions developed by Baltimore city teachers. Much of the material presented is related to life in Baltimore, Md. Each unit is complete with readings, tables, and activities.

Episodes in Social Inquiry, by Sociological Resources for the Social Studies, American Sociological Association, 1972-1975. Allyn and Bacon, Inc., 470 Atlantic Avenue, Boston, Mass. 02210 (grades 9-12).

Four episodes are related to population: "Family Size and Society," 54 pp., 10 copies for $6.30; "Migration Within the United States," 51 pp., 10 copies for $6.50; "Population Change: A Case Study of Puerto Rico," 54 pp., 10 copies for $7.20 (instructor's guide $2.22); and "Roles of Modern Women," 66 pp., 10 copies for $6.72.

Each episode is an 8 to 12 day unit for use in sociology, political science, history, and family life courses. Students are expected to work with data in the development and testing of hypotheses, and in the process to become "enlightened skeptics." Each unit includes student resources and an instructor's guide.

The Immigrant Experience, by William D. Travis, 1975. Wider Horizons Project, Foreign Policy Association, United Nations Plaza, 345 East 46th Street, New York, N.Y. 10017. 70 pp., $4.50 (grades 7-12).

Five lesson plans designed to be used alone or in conjunction with other curriculum materials. Activities include taking a family history, looking at early immigration patterns, understanding the experiences of immigrant groups, exploring America's reception of "old" and "new" immigrants, and relating through a case study to the pressures felt by second-generation descendants of immigrants. The package contains a teacher's guide and student workbook.

Population Dynamics in Eighth Grade American History, by Byron Massialas and Charles Nam, 1975. College of Education, Florida State University, Tallahassee, Fla. 32306. 300 pp., single copies on request (grade 8).

Multimedia units designed to help the teacher integrate population concepts into the American history curriculum. Units are entitled: "Settling People in the American Colonies," "Peopling the American Colonies," "Taking a Census," "Changing the West Through Migration," "Industries, Cities and People," "Changing Populations Through Immigration," and "Comparing Population Change in Societies." Each unit contains both teacher and multimedia student material designed as a springboard to discussion.

Population Profiles, by Leon F. Bouvier and Everett S. Lee, 1972-1975. Center for Information on America, Box C, Washington, Conn. 06793. 8 pp., 50 cents, (grades 10-college).

Designed for infusion into social studies classes, each of the 14 units of this series presents population material in traditional descriptive form. Teacher's guides for each unit are available. Units are: "Introduction to Population Study," "America Among the Nations," "The Vital Revolution: How We Got to Where We Are Now," "The Health of Americans," "The Bearing of Children," "The Endless Movement: America as a Nation of Migrants," "The Desertion of our Countryside," "Growth and Future of Cities," "The Nation's Minorities," "Black America," "Our Human Resources, Education and Human Capacities," "Population of the Future," and "Nature and Uses of the United States Census."

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Data

Pocket Data Book: USA 1973, by the U.S. Bureau of the Census, 1973. Available from any U.S. Government Printing Office bookstore or any U.S. Department of Commerce field office as well as from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. 352 pp., $2.80 (grades 9-adult).

Current data on vital statistics, population composition characteristics, social and economic data, and government programs and expenditures presented in readable tabular and graphic form. Other useful publications from the Government Printing Office containing Census data are:

—*County and City Data Book, 1972*, 1973. Statistics for every State, county, and standard metropolitan statistical area and for over 700 major cities. 1020 pp., $12.50.

—*Statistical Abstract of the U.S., 1974*, 1975. Data for the *Pocket Data Book* are drawn from this more extensive summary of social, economic, and political statisitcs. 1028 pp., $6.85.

"U.S. Population Data Sheet," *Population Profile*, 1972. Population Reference Bureau, Inc., 1754 N Street, N.W., Washington, D.C. 20036. 10 pp., 50 cents (grades 10-adult).

A foldout table offering recent population figures for each State including size (by decade 1900-1970), internal migration (1960-1970), percent urban, birth and death rates, infant mortality, population estimates, and projections for 1980. The back page lists selected sources for State and local population information.

1975 World Population Data Sheet, Population Reference Bureau, Inc., 1754 N Street, N.W., Washington, D.C. 20036. Wall chart, 35 cents each for single copies, 25 cents each for 2 through 49 copies, 20 cents each for 50 copies or more (grades 9-adult).

This annual publication inciudes data on population size, birth and death rates, growth rates, doubling time, projections to 2000, infant mortality rates, median age, life expectancy, population under 15 years, dietary supply, and per capita GNP for 160 countries. A copy of "Between the Lines," which offers explanatory notes, is included with each order.

Reference Guides

The Population Activist's Handbook, edited by Joan Draper, 1974. The Population Institute, Youth and Student Division, 110 Maryland Avenue, N.E., Washington, D.C. 20002. 174 pp., $4.95 (grades 10-college).

Sections on policy, education, services, action for high school students, and international population issues offer suggestions on how to express concern about population issues.

Population Education Resources, 1973. Zero Population Growth, Inc., 1346 Connecticut Avenue, N.W., Washington, D.C. 20036. 23 pp., donation or free (grades 5-adult).

A colorful folder containing seven separate resources lists: "Resources for Elementary Teachers," "Secondary School Resources," "Population Bibliography," "Audiovisual Materials," "Population-Related Organizations," "Population Careers," and "Birth Control."

Newsletters and Periodicals

Concerned Demography (quarterly). Center for Demography and Ecology, 3224 Social Science Building, University of Wisconsin, Madison, Wisc. 53706. $2 per year (college).

Essays devoted to alternative views on demographic research and training. Editorship rotates among university programs.

ECO News (monthly). Environmental Action Coalition, 235 East 49th Street, New York, N.Y. 10017. 30 cents per issue (grades 4-6).

—"People and Our Earth," vol. 2, no. 7, 1972, 6 pp. This issue focuses on the population problems of young people.

Population Bulletin (bimonthly). Population Reference Bureau, Inc., 1754 N Street, N.W., Washington, D.C. 20036. 75 cents per issue (grades 10-adult).

—"Nutrition, Development, and Population Growth," by Alan Berg, vol. 29, no.1, 1973, 37 pp. Discussion of the relationship between poor nutrition and the quality of human populations, emphasizing the impact of malnourishment of infants and children on the economy of developing nations. Sections on agricultural advances, new foods, and future policy are included.

—"Population and Affluence: Growing Pressures on World Food Resources" by Lester Brown, vol. 29, no. 2, 1973, 30 pp. Examines the relationship between population growth and food supply from a number of aspects including technology, ecology, consumption. Prospects for immediate and future alleviation of the pressure on food resources are discussed.

—"U.S. Population in 2000 — Zero Growth or Not," by Leon F. Bouvier, vol. 30, no. 5, 1975. Analysis of the present and future population of the United States. Topics covered include population structure and the meaning and consequences of zero population growth.

—"World Population Projections: Alternative Paths to Zero Growth," by Jennifer Marks Peck, vol. 29, no. 5, 1974, 32 pp. Summary of selected parts of *The Future of Population Growth: Alternative Paths to Equilibrium*, by Tomas Frejka. Frejka develops population projections for each area and country in the world based on three alternative fertility levels and the level of economic development and estimates when zero growth might be attained.

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Rain, by Eco-Net (10 issues a year). Environmental Education Center, Portland State University, P.O. Box 751, Portland, Ore. 97207. $5 per year (grades 10-adult).

Excerpt-abstract access newsletter published by Eco-Net, an environmental education network based in Oregon. Resources, current activities and projects, and organizations are listed under categories of interest. Also included are: short articles; essays on access to information, skills and tools; graphs; charts; and a workshops and conferences listing.

Readings

The American Population Debate, edited by Daniel Callahan, 1971. Doubleday & Co., Inc., 245 Park Avenue, New York, N.Y. 10017. 375 pp., $2.50 (grades 10-adult).

Collection of 23 articles on the questions: "Does the United States have a population problem? If so, what are the solutions?" The articles reflect different interpretations of the same data as well as different values. The items focus primarily on opposite ends of a spectrum necessitating careful classroom discussion to avoid misconceptions and confusion. Equips students to carry out debates of their own in a course on social problems or contemporary issues.

"A Bulletin Dialogue on Barry Commoner's The Closing Circle," by Paul Ehrlich, John P. Holdren, and Barry Commoner, *The Bulletin of the Atomic Scientists*, vol. 28, no. 5, 1972, pp. 16-27 and 42-56. $1 (grades 11-adult).

Commoner's latest book on environment and pollution is highly criticized by Ehrlich and Holdren. A response by Commoner accuses Ehrlich of strong population bias.

The Closing Circle: Nature, Man and Technology, by Barry Commoner, 1971. Alfred A. Knopf, Inc., 201 East 50th Street, New York, N.Y. 10022. 328 pp., $6.95 (grades 11-adult).

A review of the environmental crisis with examples from air, earth, water, and atomic fallout. Commoner ascribes the crisis to the successes of post-World War II technology which — without increasing per capita consumption of food, shelter, clothing, or transportation — replaced natural products with synthetic substances destructive to the environment.

Ecotopia, by Ernest Callenbach, 1975. Banyan Tree Books, c/o Bookpeople, 2940–7th Street, Berkeley, Calif. 97410. 167 pp., $2.75 (grades 10-adult).

Fictional scenario describing the state of Ecotopia established in 1980 from northern California, Oregon, and Washington. The novel reviews the decentralized, ecologically sensitive developments in areas such as education, transportation, work, production, sex roles, and population.

Human Ecology, Problems and Solutions, by Paul R. Ehrlich, Anne H. Ehrlich, and John P. Holdren, 1973. W. H. Freeman & Co., 660 Market Street, San Francisco, Calif. 94104. 304 pp., $4.75 (college-adult).

Introduction to the study of mankind's relation with the environment; covers the main elements of the population-food-environmental crisis and stresses need for rapid changes in human attitudes, especially on reproductive behavior, economic growth, technology, the environment, and conflict resolution.

Human Population, A Scientific American Book, 1974. W. H. Freeman & Co., 660 Market Street, San Francisco, Calif. 94104. $3.75 (grades 10-adult).

Reprint of the September 1974 issue of *Scientific American* devoted to population with articles by the most respected authorities in the field of demography on history, physiology of reproduction, genetics, migration, family, women's status, food, the populations of developing and developed nations, and the transfer of technology to underdeveloped countries.

The Limits to Growth, by Donella H. Meadows, *et al*, 1972. Universe Books, 381 Park Avenue South, New York, N.Y. 10016. 207 pp., $2.75 (college and adult).

Examination of the complex and interrelated factors that determine and ultimately limit growth on this planet: population, food and industrial production, pollution, and resource use. (See reference to film *The Limits to Growth*, page 20.)

Models of Doom: A Critique of the Limits to Growth, by H. S. D. Cole *et al., 1973. Universe Books, 381 Park Avenue South, New York, N.Y. 10016. 244 pp., $2.95 (college and adult).*

Presents a critical analysis of the data, methods, and conclusions of the Limits of Growth analysis. Evaluates each of the five basic variables in the model.

Population: A Clash of Prophets, edited by Edward Pohlman, 1973. New American Library, Inc., 1301 Avenue of the Americas, New York, N.Y. 10009. 490 pp., $1.95 (grades 10-adult).

Collection of essays by Western social scientists; offers a cross section of opinion on demographic problems of the 1930's and 1970's, on population dynamics of the developed and developing worlds, on the economic and political impact of accelerated population growth on the environment and food production, and minority viewpoints on fertility.

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Population and the American Future, by the U.S. Commission on Population Growth and the American Future, 1972. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. 186 pp., $1.75 (grades 10-adult).

The Report of the Commission's 2-year study on the economic, social and environmental implications of population growth in the United States includes recommendations, dissenting statements by individual Commission members, references, and a list of the more than 100 research papers.

Population Crisis: An Interdisciplinary Perspective, edited by Sue Titus Reid and David L. Lyon, 1972. Scott Foresman & Co., 1900 East Lake Avenue, Glenview, Ill. 60025. 211 pp., $2.95 (college).

Thirty-three essays on the population problem, its control, and its impact on man and his environment. Opposing points of view are presented.

Population, Evolution and Birth Control: A Collage of Controversial Ideas, edited by Garrett Hardin, 1969. W. H. Freeman & Co., 660 Market Street, San Francisco, Calif. 94104. 385 pp., $3.50 (grades 10-adult).

Over 120 short readings related to population, ranging from Biblical quotations to poems to historical pieces to scholarly essays. Offers the teacher a selection of opinions which might be useful in provoking discussion.

"Population Statistics: What Do They Mean?" *Population Profile*, March 1972. Population Reference Bureau, Inc., 1754 N Street, N.W., Washington, D.C. 20036. 10 pp., 50 cents (grades 10-adult).

A primer of population terms and their meanings and uses. A discussion of U.S. population trends is included.

ZPG and Immigration: A Discussion Paper, 1974. Zero Population Growth, Inc., 1346 Connecticut Avenue, N.W., Washington, D.C. 20036. 8 pp., 15 cents each for 1-9 copies, 12 cents each for 10-99 copies (grades 9-adult).

Pamphlet concerning immigration policy in the United States. Discusses the demographic aspects of immigration, laws relating to immigration, and in four chapters deals with special problem areas (The Brain Drain, Illegal Immigration, Refugees, and The Soldier's Legacy). A short bibliography is also included.

Student Resources

Curriculum / Study Guides

Population, by Valerie Oppenheimer, 1971, Headline Series No. 206. Foreign Policy Association, 345 East 45th Street, New York, N.Y. 10017. 95 pp., $1 (grades 10-12).

Considers the problems of rapid population growth in an urgent but "noncrisis" manner, touching on industrialized as well as developing nations. One section offers a variety of alternatives for reducing growth, such as changing women's roles, maternal child care centers, population education, abortion, and sterilization. Includes discussion and reading references to be used in planning a unit on population dynamics.

Population Growth in the United States and Mexico: A Geographical Analysis, by John Dale and Marion Rice, 1972. Geography Curriculum Project, University of Georgia, 107 Dudley Hall, Athens, Ga. 30601. 96 pp., $1.25, $33.75 for a set of 30 (grades 4-7).

A 2-week self-study unit employing a forced inferential response scheme to introduce students to methods of demographic and geographic inquiry, analyzing the factors that led to differential population growth in the neighboring nations of the United States and Mexico.

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Census Portraits, by the U.S. Bureau of the Census, 1974. Publications Distribution Section, Social and Economic Statistics Administration, Washington, D.C. 20233. 52 leaflets of 4 pp. each, 10 cents each (grades 7-12).

Leaflets for each of the 50 States, the District of Columbia, and Puerto Rico, each containing a table giving basic statistics; a description of the characteristics of the State's population by race, age, marital status, income, schooling, and employment; and a full-page map of the State showing counties, metropolitan areas, and urban places. Data on housing and agriculture for each State are also included. These portraits were designed for school use and are based on the 1970 Census.

We, The Americans, by the U.S. Bureau of the Census. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. 1972-73 series of pamphlets, 35 cents each (grades 7-12).

Short well-illustrated reports on the 1970 Census, written for junior and senior-high students. Booklets available are: "We, the Black Americans," "We, the Americans—Our Homes," and "We, the Women." Other subjects in the series are Spanish-Speaking Americans, American Indians, Youth, Immigrants, Jobs, Elderly, Schooling and Income.

Reference Guides

Careers in Demography . . . A Concern with People and What Happens to Them, 1974. Population Association of America, Inc., P.O. Box 14182, Benjamin Franklin Station, Washington, D.C. 20044. 16 pp., free (grades 10-college).

Booklet dealing with what it means to be a demographer, what the subject matter of demography is (with examples), profiles of three demographers, and information on graduate training in demography in the United States and Canada.

Texts

Earth, Our Crowded Spaceship, by Isaac Asimov, 1974. John Day Co., 666 Fifth Avenue, New York, N.Y. 10019. 160 pp., $2.50 (grades 7-9).

Discussion in this textbook centers on the problems faced by Earth's inhabitants as population increases and energy sources, food, and land become more scarce. The conversational tone draws the student into a reasoned examination of these critical issues. Illustrated by photographs, graphs, and charts.

An Introduction to Population, by Kenneth C. Kammeyer, 1971. Chandler Publishing Co., c/o Thomas Y. Crowell Co., Inc., 666 Fifth Avenue, New York, N.Y. 10019. 200 pp., $3.50 (college).

Introductory text in demography; defines and outlines the history of population study and the sources of population data. Contains basic, clear discussions of migration, composition, mortality, fertility, and world population growth. Includes information on the 1970 U.S. Census.

People! An Introduction to the Study of Population, by Robert Cook and Jane Lecht, Population Reference Bureau, Inc., 1973. Columbia Books, 734-15th Street, N.W., Washington, D. C. 20005. 62 pp., $2.50 (grades 5-9).

Textbook for young people describing worldwide population pressures, primarily in terms of food shortages and health problems. Begins with a chapter explaining basic census methods and demographic variables.

Population, by Robert Lowenherz, 1970. Creative Educational Society, Inc., 123 South Broad Street, Mankato, Minn. 56001. 120 pp., $5.95 (grades 4-7).

Clear, simple, and comprehensive text on the characteristics of population change and why rapid growth presents a variety of social, environmental, and individual problems. Profusely illustrated with photographs and drawings. Information at the end includes sections on definitions of terms, how to read tables, a list of free and inexpensive books and films.

Population, by William Peterson, 1975. MacMillan, Inc., 866 3rd Avenue, New York, N.Y. 10022. 751 pp., $13.95 (grades 10-adult).

Very comprehensive, well-known textbook. Begins with criteria for population analysis: determinants of fertility, mortality and morbidity, and migration; projections, age and sex structure; Malthusian theory. Differentiates the population structure of

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various societal types, following a historical development from primitive to modern societies, including Third World populations and the population of totalitarian societies.

This Crowded World, by Lillian B. Frankel, Population Reference Bureau, Inc., 1970. Columbia Books, 734 - 15th Street, N.W., Washington, D.C. 20005. 60 pp., $1.50 (grades 3-5).

Textbook describing the population explosion and its serious consequences for rich and poor countries alike. Focuses on hunger, poverty, and the worsening state of the environment and calls for new ways of thinking to solve these problems. Includes an explanation of the census and "population arithmetic," followed by the history of man's population growth.

The World Population Dilemma, Population Reference Bureau, Inc., 1972. Columbia Books, 734 - 15th Street, N.W., Washington, D.C. 20005. 80 pp., $2 (grades 10-junior college).

Factual text presenting demographic trends without oversimplification; discusses the linkages between population growth and nuclear war, environmental pollution, racism, nationalism, and world poverty.

Readings

Energy 1 through Energy 17, 1974. League of Women Voters, Education Fund, 1730 M Street, N.W., Washington, D.C. 20036. 17 fact sheets for $1 a set, 15 cents each, and $1 for 25 copies of one sheet. (grades 10-adult).

Aimed at helping readers think and talk about significant parts of the complex energy issue. Each sheet presents an issue, its background, discussion questions, and references.

The Missing Half: Woman 1975, by the Food and Agriculture Organization, United Nations, 1975. UNIPUB, P.O. Box 433, Murray Hill Station, New York, N.Y. 10016. 50 pp., $2 (grades 10-adult).

A verbal and visual essay on women, their status and roles in both the developed and developing world, published specially for International Women's Year. Urges women's full participation in all sectors of their nation's life.

More: The Interfaces Between Population, Economic Growth and the Environment, April 1972. League of Women Voters, 1730 M Street, N.W., Washington, D.C. 20036. 44 pp., 75 cents (grades 10-adult).

Statement of demographic factors influencing population change, distribution, and growth and a description of the relationship between economic, environmental, and population factors. Gives some attention to policy implications and government programs. Offers a topical bibliography and a listing of involved private organizations as well as public agencies.

Our Overcrowded World, by Tadd Fisher, 1969. Parent's Magazine Enterprises, Inc., 52 Vanderbilt Avenue, New York, N.Y. 10017. 256 pp., $4.50 (grades 10-college).

Analysis of population problems in the United States and in the world. Traces the historical importance of population dynamics in relation to development issues such as urbanization. Treats the impact of technology on food production, as well as the policy and moral aspects of population size, contraception, and family planning.

Population Growth and the Complex Society, edited by Helen MacGill Hughes, Sociological Resources for the Social Studies, 1972. Allyn and Bacon, Inc., 470 Atlantic Avenue, Boston, Mass. 02210. 211 pp., $1.68 (grades 10-12).

Adaptations of nineteen articles by demographers and other social scientists on the complex relationship between population size, distribution and composition, and our rapidly changing society. The reader must draw many of the relationships himself, but he is helped with a series of questions for each article.

"Population: The U.S.—A Problem: The World—A Crisis," *New York Times Sunday Supplement*, April 30, 1972. Population Supplement, Population Crisis Committee, 1835 K Street, N.W., Washington, D.C. 20006. 28 pp., single copy free (grades 7-adult).

Contains a statement of the Population Commission's findings and specific recommendations. Also included are statements by outstanding Americans and international figures, minorities, women, and religious groups.

Things to Come, The World Food Crisis–The Way Out, by the Food and Agriculture Organization, United Nations, 1974. UNIPUB, P.O. Box 433, Murray Hill Station, New York, N.Y. 10016. 50 pp., $1 (grades 10-adult).

Introduction to the background and issues of the current world food shortages. Incorporates the main topics of debate at the 1974 World Food Conference held in Rome. Contrasts the well-fed and hungry worlds from many aspects: supply, technology, distribution, production, and prices.

Uncle Sam Counts: The Story of the Census '70, by the U.S. Bureau of the Census, 1969. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. 45 pp., 35 cents (grades 6-12).

Simple, readable explanation and justification of the U.S. Census. Each general question category is clarified so that teachers and students will see the social value of responding to census questions.

World Food, by Nance Tui Fyson, 1972. B. T. Batsford Ltd., 4 Fitzhardinge Street, London W.1, England. 96 pp., (grades 10-12).

A balanced historical analysis of the problem of providing food for the world's people. Compares specific eating habits of people in different countries and discusses the difficulties faced in producing and distributing food.

3,000,000,000, by the International Labor Organization, 1974. International Labor Organization, 1750 New York Avenue, N.W. Washington, D. C. 20006. 30 pp., free (grades 7-adult).

Comic book dealing with the relationships among population growth, consumption, and employment. Designed to accompany a cartoon film (see page 19).

00018

Audio-Visual Aids and Activities

Charts

A Graphic Summary of the 1970 Population Census, PC (S1)-55, by the U.S. Bureau of the Census, 1973. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. 50 pp., $1.25 (grades 7-adult).

Seventy-eight colorful maps and charts prepared for the final 1970 Census reports on "Number of Inhabitants" and "Social and Economic Characteristics." Data are given by State and county and some maps correspond to the Reference Maps Series GE-50. The 8½- by 11-inch size is designed to be reproduced for classroom use.

Population Poster Packet, 1969. Population Institute, 110 Maryland Avenue, N.E., Washington, D.C. 20002. 6 pieces, $1.50 (grades 4-12).

Cartoons and posters done by students depicting various aspects of population dynamics.

Reference Maps Series GE-50, by the U.S. Bureau of the Census, 1969-1970. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. 95 cents each (grades 7-adult).

Wall-chart-size maps on U.S. population distribution, ethnic groups, migration, education, and other socioeconomic characteristics, by counties. Some of particular interest are: No. 36, "Older Americans: 1970;" No. 37, "Year of Maximum Population;" No. 41, "Percent Change in Population: 1960-70;" No. 42, "Population Trends;" No. 43, "1970 Population as a Percent of Maximum Population;" No. 44, "Net Migration: 1960-70;" and No. 45, "Population Distribution, Urban and Rural: 1970." A complete listing is available from the above address.

Urban Atlas: Tract Data for Standard Metropolitan Statistical Areas, by the U.S. Bureau of the Census and the Manpower Administration, 1974. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. In ordering, use catalog number C56.242/4 plus the name of the statistical area. 65 large map folders, each approximately $3 (grades 9-adult).

Series containing 12 large, colorful map charts for each of the 65 largest Standard Metropolitan Statistical Areas (SMSA's) in the United States presents population characteristics, socio-economic data, and housing characteristics.

Wall Charts, 1975. Population Reference Bureau, Inc., 1754 N Street, N.W., Washington, D.C. 20036. $3.50 for a set of eight (grades 10-adult).

Series of wall charts approximately 17 by 22 inches dealing with population issues and designed for classroom use. Each chart includes explanatory notes for teachers and is available in an 8½- by 11-inch size for student use.

00019

Films: Short (10 to 20 minutes)

Except as indicated, all films are 16 mm.

Boomsville, 1969, 11 min., color, $15 rental, $150 purchase. Learning Corporation of America, 711 Fifth Avenue, New York, N.Y. 10022 (grades 6-12).

A short animated film produced by the National Film Board of Canada depicting the historical sequences of modern civilization, particularly migration to North America. Puts little emphasis on population growth, but accurately portrays urban growth and its related problems. No narration; appropriate for U.S. history and urban studies courses.

The City, 1971, 20 min., color, $20 rental, $260 purchase. Audio Productions, 8 East 36th Street, New York, N.Y. 10016 (grades 10-adult).

This lively film on two city dwellers in a Latin American city focuses on the frustrations of urban life but faces the fact that cities are here to stay. Discusses population growth discreetly and urgently, but not in crisis terms, and sees rapid urban migration and natural increase as they intensify current difficulties.

Eggs, 1970, 10 min., color, $20 rental, $150 purchase. Film Images, 17 West 60th Street, New York, N.Y. 10023 (grades 7-12).

Animation about human ecological problems and the future of Planet Earth. The Fertility Goddess sows the seeds of life in competition with her partner, Death, who threatens a future in which licenses are required for reproduction. The Birth and Death forces threaten destruction of the planet but are interrupted by a multi-planet god figure who suggests a future of planning, population control, and love.

Energy: Can't Do Without It, 1974, 14 min., color, $12.50 rental, $225 purchase. **Energy Sources of the Future**, 1974, 15 min., color, $12.50 rental, $240 purchase. Contemporary/McGraw-Hill Films, 330 West 42nd Street, New York, N.Y. 10036 (grades 7-12).

Companion films emphasize the controlling effect that the production of energy has on American culture, the use and conservation of energy, and the need for developing new safe and practical sources of energy for the future.

Fact Finder for the Nation, 1973, 15 and 30 min. versions, color, free rental. National Audio-Visual Center, Washington, D.C. 20409 (grades 7-12).

Tells the story of the U.S. Bureau of the Census from the first census in 1790 to the present. Explains the purpose and methods of the population and housing census taken in the United States every 10 years.

For Your Pleasure, 1972, 4 min., color, $10 rental, $100 purchase. Mass Media Associates, 211 North Charles Street, Baltimore, Md. 21218 (grades 1-adult).

An animated film depicting the transformation of a rural scene into a crowded, noisy, congested megalopolis.

Little Man, Big City, 1969, 10 min., color, $11 rental, $140 purchase. Rental: Film Library, New York University, 26 Washington Place, New York, N.Y. 10003. Purchase: Center for Mass Communication, Columbia University, 136 South Broadway, Irvington-Hudson, N.Y. 10533. (grades 7-12).

Depicts urban life in terms of the environmental problems it poses: overcrowding, noise, air pollution, lack of privacy, lack of open spaces and recreation facilities, and the hectic and uniform pace of living. Suggests that man can find a solution to these problems in united community planning and action.

Pandora's Easy Open Pop Top Box, 1967, 18 min., color, free rental, $55 purchase. Rental: National Medical Audio-Visual Center (Annex), Station K, Atlanta, Ga. 30324 (grades 10-12).

Compares the problems of city life and the quietness of the country using flashbacks. Focuses on out-migration from farmlands. No narration.

Population Ecology, 1964, 19 min., color $9 rental, $232 purchase. Encyclopaedia Britannica, Educational Corporation, Rental Library, 1833 Pickwick Avenue, Glenview, Ill. 60025 (grades 7-adult).

Gives the facts of population growth in a variety of organisms and shows different animal responses to the same environmental limits; portrays the fluctuation and limitation of population sizes as environment changes; and explains the population growth curve through the history of man. The conclusion is that man, too, must be governed by natural laws.

Population and the Quality of Life, 1975, 12 min., color, $20 rental, $90 purchase. Institute for World Order, 1140 Avenue of the Americas, New York, N.Y. 10036 (grades 9-12).

Discusses the relation of population and the quality of life. A teaching guide accompanies the film.

Tilt, 1973, 19 min., color, $25 rental, $225 purchase. CRM Educational Films, Del Mar, Calif. 92014 (grades 10-adult).

This animated film is about the many inequalities in the distribution of wealth among the world's people. It was produced by the National Film Board of Canada and the World Bank.

Tomorrow's Children, 1971, 17 min., color, $22 rental, $225 purchase. Perennial Education, 1825 Willow Road, Northfield, Ill. 60093 (grades 7-12).

A strong but accurate indictment of man's refusal to follow nature's laws of balance. Also a statement of man's potential for responding to the physical and psychological needs of future children through control of both consumption and reproductive patterns. Perennial Education maintains a large collection of films on birth control, population, and ecology. Catalog available from the above address.

We, 1973, 15- and 30-min. versions, color, free rental, National Audio-Visual Center, Washington, D.C. 20409 (grades 7-12).

Produced by the U. S. Bureau of the Census; presents the key findings of the 1970 Census on the growth, movement, and characteristics of the U.S. population.

3,000,000,000, 1974, 10 min., color, free. International Labor Organization, 1750 New York Avenue, N.W., Washington, D.C. 20006 (grades 7-adult).

Animated cartoon film produced in the Netherlands; deals with the relation of employment to population and consumption. Accompanied by comic book entitled *3,000,000,000* (see page 17).

00020

Films: Medium (21 to 40 minutes)

Except as indicated, all films are 16 mm.

Beyond Conception, 1968, 35 min., color, $15 rental, $275 purchase. Population Dynamics, 3829 Aurora Avenue, North, Seattle, Wash. 98103 (grades 7-12).

Emphasizes the causes and consequences of population growth for the environment, food supply, and structure of society. Discusses contraception.

Beyond The Next Harvest, 1975, 27 min., color, $25 rental, $300 purchase. Mass Media Ministries, Inc., 2116 North Charles Street, Baltimore, Md. 21218. (grades 7-adult).

Documents the growing world food crisis from a time of surplus, only five years ago, to the present global situation. Visual statements of world hunger, interviews with 1974 World Food Conference delegates (Lester Brown, Barbara Ward, Jean Mayer, and Sayed Marei) and factual narration by Norman Cousins mesh to show all nations' and peoples' concern for survival.

Each Child Loved, 1971, 40 min., color, $14 rental, $225 purchase. Rental: The Film Library, 267 West 25th Street, New York, N.Y. 10001. Purchase: Planned Parenthood/World Population, Audio-Visual Service, 810 Seventh Avenue, New York, N.Y. 10019 (grades 10-adult).

The experience of a woman undergoing illegal abortion under cruel and unsafe circumstances is contrasted with that of a woman obtaining a medically approved, legal abortion. Tastefully done. Does not consider whether abortions ought to be performed, but rather under what circumstances.

Issues in Population: Where the Experts Disagree, 1971, film strip or slide show, 28 min., color, $2 rental, $20 film clip purchase, $45 slide show purchase. Sound track available on 7-inch tape reels recorded at 7½ inches per second or on tape cassettes. Cornell Film Library, Roberts Hall, Cornell University, Ithaca, N.Y. 14850 (grades 7-12).

A brief discussion of world population growth followed by differing viewpoints on several issues by experts. Topics include population and food, the environment, and population policies in the United States. The aim is to show that controversies among experts do exist and there are no easy answers.

Joyce at 34, 1972, 38 min., color, $35 rental, $350 purchase. New Day Films, P.O. Box 315, Franklin Lakes, N.J. 07417 (grades 10-adult).

The role of motherhood and the conflicts faced by the working mother are analyzed in this lovely film. Although not a feminist film, it presents the conflicting loyalties and ambitions of three generations of women.

Let's Talk About Population, 1974, 25 min., black and white, free but limited distribution. National Association for Foreign Student Affairs (NAFSA), 1860 - 19th Street, N.W., Washington, D.C. 20009 (grades 10-adult).

Presents a discussion by six students from Belize, Ghana, India, Indonesia, Malaysia, and the United States. They consider the effects of increasing population in their own countries and throughout the world. Covers a wide range of topics and opinions.

Life World 2000, 1974, color. Can be used for broadcast. Each program $125 purchase. Agency for Instructional Television, Box A, Bloomington, Ind. 47401 (grades 7-9).

Series of twelve 15-minute television programs on such subjects as optimum population level, population trends, migration, pollution, crowding, metropolitan areas, families and babies, attitudes, population policy, and alternative futures. Accompanied by a teacher's guide. (See page 9).

The Limits to Growth, 1973, 30 min., color, $10 rental, $200 purchase. Lane Council of Governments, 135 Sixth Avenue East, Eugene, Ore. 97401 (grades 10-adult).

Offers a visual version of the concepts and findings also reported in the book *The Limits to Growth* by Donella Meadows (see page 14). Very clearly explains exponential growth, particularly in relation to the five physical factors (population, agricultural production, natural resources, industrial production, and pollution) which can determine and limit growth on earth. Presents the results of various growth assumptions as they relate to each other within the world model.

Population Problem, Japan, Answer in the Orient, 1966, 30- and 60-min. versions, color, $9 and $16.50 rental, $200 and $350 purchase. Indiana University, Audio Visual Center, Bloomington, Ind. 47401 (grades 7-12).

Although population change is the primary theme, historical and sociological views of Japan are important focuses. Describes the relationship of population growth to Japan's military conquests and expansion in the past 100 years. Follows modern economic and societal changes.

Promise City, 1971, 30 min., color, $11.50 rental. Indiana University, Audio Visual Center, Bloomington, Ind. 47401 (grades 7-12).

This study of migration and depopulation shows the slow death of an Iowa farming community, illustrating the small farmer's survival difficulties in the United States today and consequent migration of the young farm people to more prosperous urban areas.

The Tragedy of the Commons, 1971, 23 min., color, $35 rental, $295 purchase. King Screen Productions, 320 Aurora Avenue, North, Seattle, Wash. 98109 (grades 10-adult).

Emphasizes population growth, initially through the analogy of an overgrazed common pastureland, then through illustrating the degradation of urban life. Brings attention to the black minority's mistrust of the entire ecology versus population movement and states that population must be controlled.

00021

Films: Long (41 to 60 minutes)

Except as indicated, all films are 16 mm.

A Matter of Indifference, 1973, 48 min., black and white, $50 rental, $400 purchase. Phoenix Films, 743 Alexander Road, Princeton, N.J. 08540 (grades 9-adult).

Presents the problems of older Americans through a series of interviews and visual essays. Maggie Kuhn, founder and national leader of the Gray Panthers, and others speak on the process of aging in the United States.

Modern Women, The Uneasy Life, 1967, two parts, black and white, 60 min., $12 rental, $200 purchase. Indiana University, Audio Visual Center, Bloomington, Ind. 47401 (grades 7-12).

Deals with the changing role of women in modern U.S. society. Focuses on problems faced by women who are familiar with and prefer life outside the home and highlights the value conflict experienced by educated women who attempt to combine a career with the traditional homemaker role. Reveals many of the innermost biases and expectations men have concerning the ideal roles for husband and wife. One section also explores different teaching approaches with young girls and what kinds of behavior the approaches reinforce.

Multiply and Subdue the Earth, 1967, 60 min., color, $18.50 rental, $450 purchase. Indiana University, Audio Visual Center, Bloomington, Ind. 47401 (grades 10-adult).

Emphasizes land as a precious resource and urges ecologically sound use of it. Severely criticizes economic gain as the basis for land-use planning. Case studies of New Jersey, Minnesota, Tahoe, Baltimore, and Hawaii give a clear message of the need for reform in taxing and zoning.

Population and the American Future, 1972, 60 min., color, $20 rental, $300 purchase. Rental: Rental Division, Modern Talking Picture Service, Inc., 45 Rockefeller Plaza, New York, N.Y. 10020. Purchase: Fisher Film Group, 216 East 49th Street, New York, N.Y. 10017 (grades 7-adult).

The official film version of the U. S. Commission's report, *Population and the American Future*, concludes mainly that well-informed individuals who have access to fertility-related services can act in their own behalf while still benefiting the entire society. The Commission found that the collective result of such behavior would be the stabilization of U.S. population and that the outcome of this may well include increased per capita income, improved governmental services and reduced demand on natural resources.

Population Boom or Doom? 1972, 60 min., color, $25 rental, $250 purchase. ABC Media Concepts, 1330 Avenue of the Americas, New York, N.Y. 10019 (grades 7-adult).

Keyed to the Commission report, *Population and the American Future*, this film is recommended as an alternate to the official Commission film. It highlights questions of growth and distribution; the effect of population problems on the quality of life; the support of sex education for all Americans; increased funds for contraceptive research; the endorsement of abortion (though not as a primary means of fertility control); and controls on immigration quotas. Includes spokesmen for differing points of view on most controversial issues raised by the Commission report.

The Time of Man, 1971, 50 min., color, $40 rental, $450 purchase. Holt, Rinehart & Winston, Media Sales, 383 Madison Avenue, New York, N.Y. 10017 (grades 7-12).

Reviews man's evolutionary history and looks at primates in their natural surroundings. Studies primitive populations in Africa and New Guinea to show situations where man interacts with his environment without causing severe imbalances. The main thread is man's reliance on a supportive ecosystem.

To Feed the Hungry, 1969, 45 min., color, $40 rental. Contemporary/McGraw Hill Films, 330 West 42nd Street, New York, N.Y. 10036 (grades 8-adult).

Discusses hidden hunger in the United States and deals with the effects of hunger on the family from the father (who must work) to the mother (her health) and the children (their performance in school). Interviews with political leaders, city officials, and the poor reveal the complexity of the problem.

Tomorrow's World: Feeding the Billions, 1968, 54 min., color, $35 rental, $600 purchase. Rental: McGraw Hill, Film Preview Library, Princeton Road, Hightstown, N.J. 08520. Purchase: Contemporary Films/ McGraw Hill, 330 West 42nd Street, New York, N.Y. 10036. (grades 10-12).

Narrated by Frank McGee. Opens with a clear portrayal of the history of population growth and the gravity of present growth trends in terms of widespread food shortages. Focuses at length on the various ways man is devising to farm the tropics, deserts, and oceans.

Games

Baldicer. John Knox Press, Box 1176, Richmond, Va. 23209. $25 (grades 10-12).

Simulation game on feeding the world's people, designed to help participants gain understanding of the world's economic interdependence and the problems of food production, population growth, inflation, mechanization, and distribution of world resources. In a period of 1½ to 3 hours, each of the 10 to 20 participants acts as food coordinator for 150 million people, keeping them alive by earning BALanced Diet CERtificates.

Eco: An Island Simulation Game, by Anita Yoder and John Landahl, 1975. Dolphin Enterprises, 2435 North Northlake Way, Seattle, Wash. 98103. $1 for a single copy, 85 cents each for 2 to 15 copies, 78 cents each for 16 to 50 copies, 71 cents each for 50 to 300 copies (grades 4-12).

Designed to give teachers and their students experience manipulating human and animal populations in a closed ecosystem where the consequences of their choices can be felt. Several activities are outlined using skills in language, mathematics, and social science, and sample materials are included. The open format allows the game to be adapted to students' needs and abilities.

Explosion, by Dan Guida, Roger Henke, and Dennis Porter. INTERACT, P.O. Box 262, Lakeside, Calif. 92040. $20 for 35 student guides and one teacher's guide (grades 10-12).

Simulation designed to involve students in some effects of various population-related issues on a society. Phase I deals with the societal pressures of population growth; Phase II with resources, consumption, and the environment; and Phase III with governmental decision-making on population problems. Deals with the effect of overpopulation.

Global Futures Game. Earthrise, P.O. Box 120, Annex Station, Providence, R.I. 01901. $5 (grades 10-adult).

Dynamic simulation of present and future world conditions in terms of population, food, technology, and education and the relative growth rates of each. Groups of players representing eight socio-economic regions barter for resources in 5-year rounds toward the year 2020. The game can be played by 8 to 48 players in a period of 2 to 3 hours.

ED0122

Global Geography, by the Organization Liaison Division, Population Institute. Available from the Population Reference Bureau, Inc., 1754 N Street, N.W., Washington, D.C. 20036. $1 (grades 10-adult).

Explores the interrelationships among world population, land mass, food supply, and resources. Appropriate for 25 to 100 participants in a large room, the basic game introduces the concept of a finite world where there are finite resources unequally distributed among many peoples. Supplemented by a reference section giving statistics and short summaries of population in Africa, Asia, Latin America, and the industrialized nations. Final section contains eleven "optional activities" which are keyed to the play of the game but could easily be used separately.

Population: A Game of Man and Society, by Urban Systems, Damon, Educational Division, 80 Wilson Way, Westwood, Mass. 02090. $10 (grades 10-adult).

Simulation designed to enable the player to guide a nation through a predetermined development process on the hypothetical planet Celestra by procuring agricultural, industrial, medical, and educational units to support the growing population and to avoid a population explosion. Played by two to six persons.

Starpower, 1973. Simile II, P.O. Box 1023, La Jolla, Calif. 92037. $3 for directions for making one's own game, $25 a kit for 18 to 25 students (grades 10-adult).

Deals with the unequal distribution of the world's resources. Individual players have the chance to progress from one economic level to another by acquiring wealth through trade. Appropriate for a session of 1 to 2 hours.

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(g) game
(f) film
(c) chart

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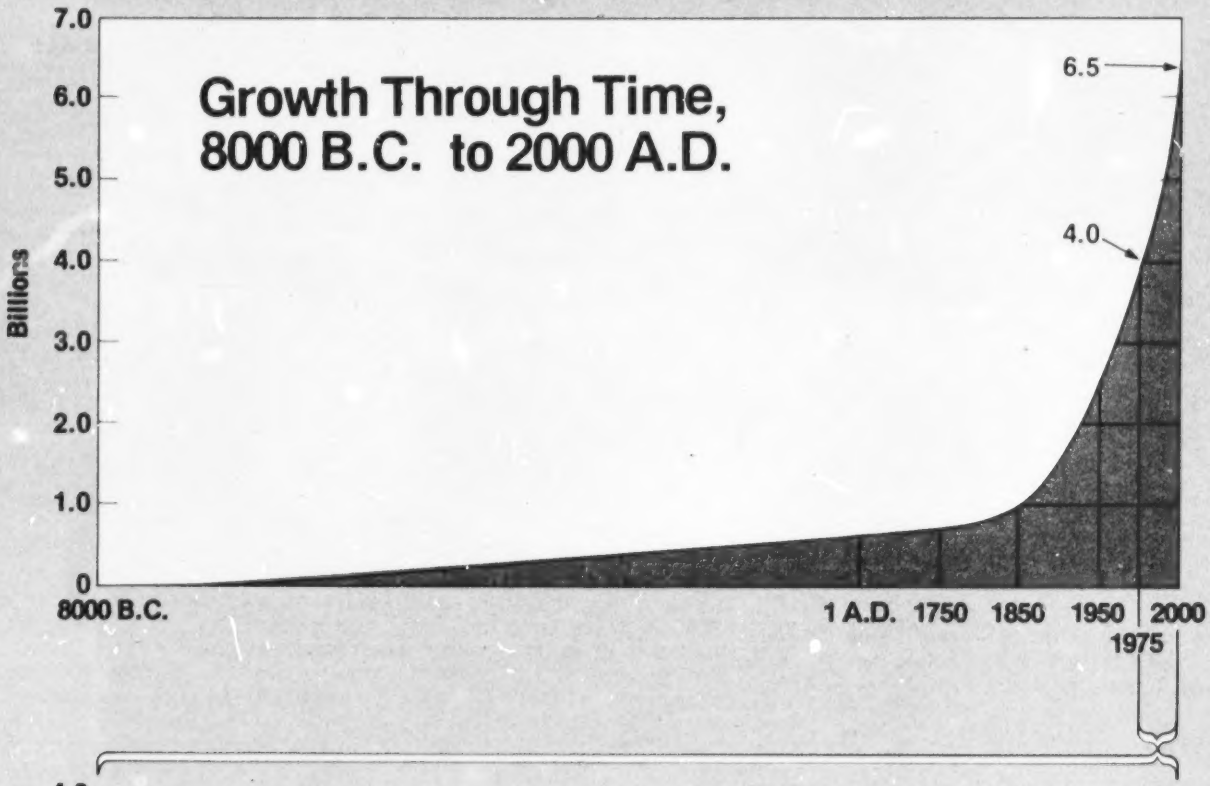
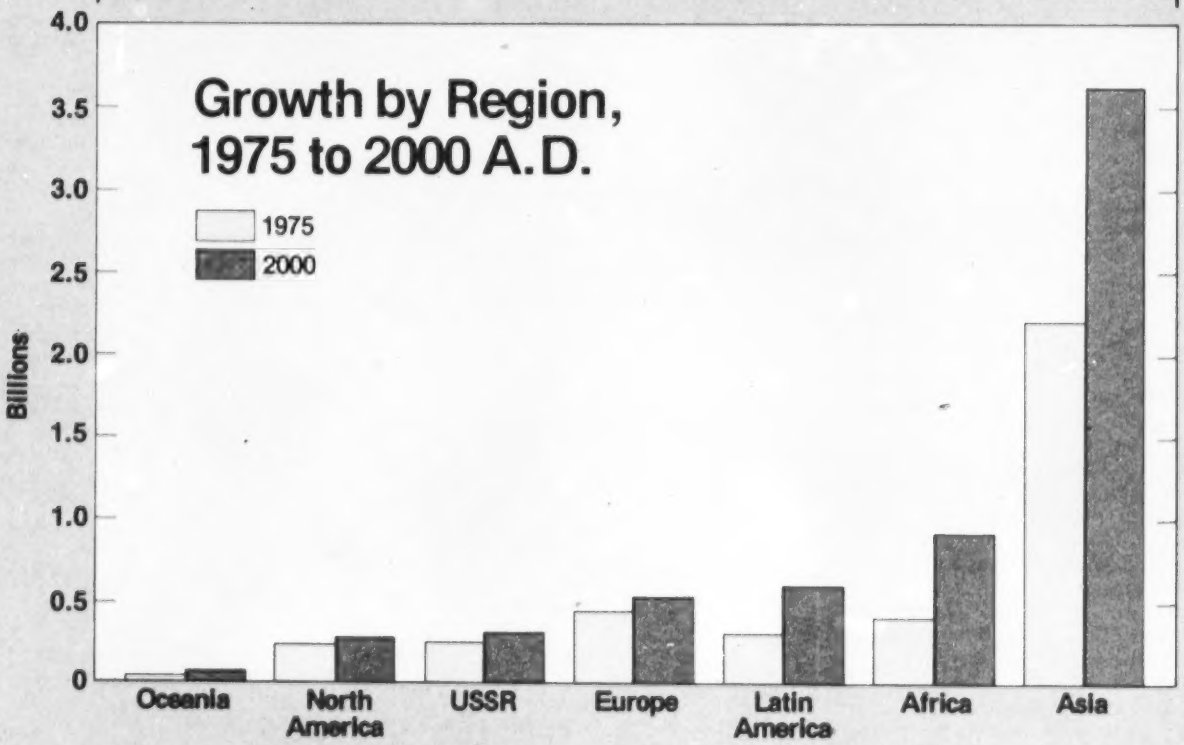
World Population Growth





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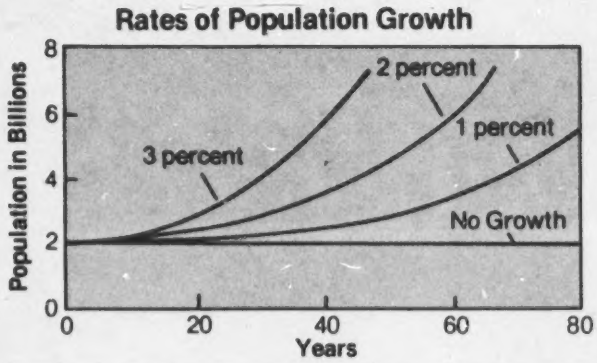

Growth Rate	Doubling Time
1 percent	70 years
2 percent	35 years
3 percent	23 years

World Population Growth

POP QUIZ???

1. What is the world's population in 1975?
2. When did the world's population reach 1 billion?
3. What is the current world growth rate?
4. At the current growth rate, how many people are added to the world's population every day?
5. In how many years would the population double if it were growing at 2 percent?

In 1975 the world's population grew to over 4 billion (4,000 million) people. It took about one million years for man's numbers to reach the first billion in 1850; and another 75 years to double to 2 billion; and only 50 years to double again reaching 4 billion in 1975. At the current rate of growth of 1.9 percent, the population will again double in less than 40 years. This rapid increase has been relatively recent in terms of man's history on earth.

Population growth increases exponentially or by multiplying. A familiar story, said to have originated in Persia, offers a classic example of exponential growth. The story tells of a clever courtier who presented a beautiful chess set to his king and in return asked only that the king give one grain of rice for the first square on the chess board, two grains or double the amount for the second square, four (doubling again) for the third, and so forth. The king, not being mathematically inclined, agreed and ordered the rice brought forth. The eighth square required 128 grains, and the twelfth took more than one pound. Long before reaching the 64th square, the king's coffers were depleted. Even today the world's richest king could not produce enough rice to fill the final square. It would require more than 200 billion tons or the equivalent of the total world production of rice for 653 years.[1]

[1] From *The Limits to Growth* film script.

If a human population grows at one percent a year, it takes only 70 years to double since the amount added each year becomes part of the total population which then increases by another one percent in the following year. The number of years needed to double the original population size, depending on the rate of growth, is called doubling time. (See above)

As long ago as 1798, an early speculator on the causes of population growth, Thomas Malthus, recognized that populations increase at an exponential rate of growth. Malthus felt that the ultimate check on world population growth would be the lack of food. He claimed that food production would increase at an arithmetic rate which means growth by a constant rather than an increasing amount. Of course Malthus' scheme did not take account of the impact of modern technology on agricultural production.

The current growth rate of 1.9 percent may not seem high in itself, but when it is applied to the world's large population, it represents an increase of 204,932 people per day. At this rate, in only three years the world's population grows by the size of the United States' population!

The chart on world population growth by region illustrates clearly differences in the present size and the future growth of various regions. The 1970-75 average growth rates by region vary from a high of 2.7 for Latin America to a low of 0.6 for Europe.

1970-75 Average Annual Growth Rates For World Regions

Africa	2.6
Asia	2.1
North America	0.9
Latin America	2.7
Europe	0.6
USSR	1.0
Oceania	2.0
World	1.9

Source of data: *1975 World Population Data Sheet.*

For individual countries the differences are even larger. For example, Mexico experienced a growth rate of 3.2 percent annually between 1970 and 1975, while Austria and Finland grew only 0.2 percent a year.

The size of the population of various world regions in the year 2000 is based upon UN projections. Projections are simple statements about the size of the population at some future date if certain birth, death, and immigration trends continued. They are not predictions of future population size.

Frequently a series of projections are prepared called variants. The United Nations uses three variants: high, medium, and low. The medium estimates represent the future population trend that is most likely to occur based on past and present experience. The high and low estimates represent upper and lower limits of what is possible. The medium variant was used in projecting regional populations for the year 2000 in the chart.

Given current projections, the world population is expected to increase to 6,253 million by the year 2000. This means that in only 25 years the world will be inhabited by 58 percent more people.

The differences in the expected increases in various regions are striking. Europe's population is projected to increase by 14 percent, while Africa's will more than double. The populations of North America, Europe, and USSR will grow by only 19 percent in contrast to a 70 percent increase in Africa, Asia, Latin America, and Oceania. The distribution of the population by region will also change due to the different rates of growth. Today, for example, 76 percent of the world's people live in the developing countries and by the year 2000, 82 percent will.

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